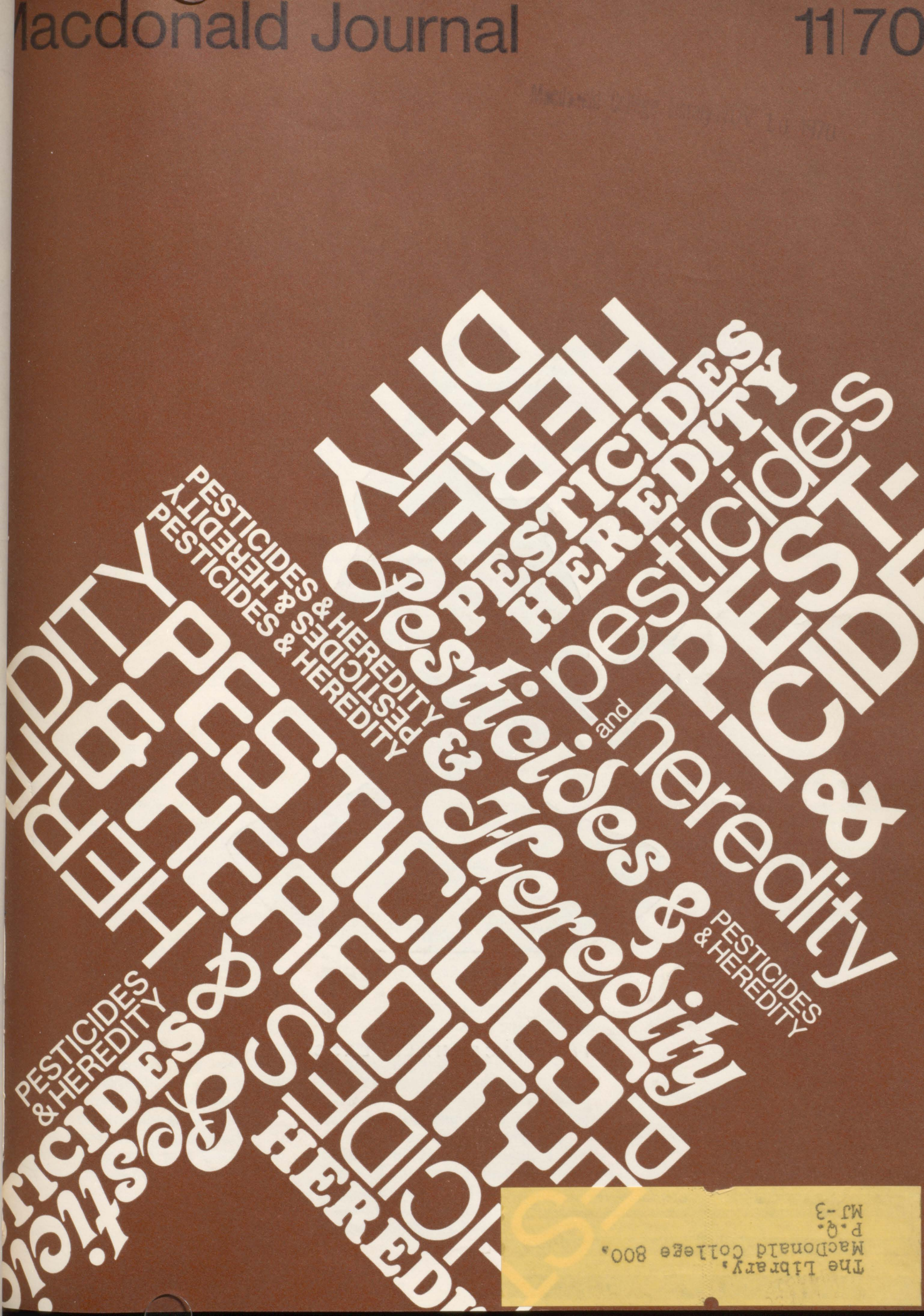
Macdonald Journal 11|70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THE MACDONALD LASSIE

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Macdonald Journal
Volume 31, Number 11
November, 1970

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The Macdonald Journal is published every month by Ronald J. Cooke Ltd, 451 Beaconsfield Boulevard, Beaconsfield, Quebec, 514 697-2916.

Texts in this issue may be reprinted editorially without permission; permission should be obtained to reproduce illustrations. Address The Editor, Macdonald College, Quebec. Second class mail registration number 0463.
Subscription rates are $7.00 for two years, $9.00 for three years in Canada, U.S.A., and foreign rates are $10.00 for two years.
Printed in Canada

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Journal Jottings

I sat in front of the typewriter thinking of this issue's contents. The words wouldn't come. I couldn't get a concrete idea down on paper. Why? And then I realized that the turmoil that was going on around me was also going on within me. I'd been living for weeks with the alternate waves of optimism and pessimism over the fate of the Macdonald Campus. A rash of hijackings had blotched the face of the world. And, with the rest of the world, I listened for news of the fate of innocent hostages. And, abruptly our own country's festering sores erupted into cowardly acts of kidnappings which scarred Canada's image in headlines around the world. Again we listened and waited for the final outcome.

These were not mine to write about nor could I do anything about the fact that Dr. Grant in his thought-provoking article "Pesticides and Heredity" said that if "I" were slaughtered "I" would be condemned as unfit for consumption. Being in this negative mood, I found I could only rejoice in a young girl's article for the Last Word — an appraisal of the family farm. It's a joy and a delight in this Age of Aquarius with all its ramifications to find a young person who believes in something old, something tried and something true. So regardless of the fanatics, the never-ending committees and meetings, the endless waiting for decisions to be reached, at least one human being came to a definite conclusion, stood up to be counted and said she believed in the family unit, a few acres of land and a peaceful, harmonious way of life. Thanks Winny. I needed your article — the rest of the month has been rather bleak.

When was I finally able to write this? Late in the evening after a scrumptious Thanksgiving dinner which was cooked on an old wood stove and eaten around the kitchen table with good friends and good conversation. That's when the words finally came and, as inadequate as they may be, I could at least be thankful for that.

Hazel M. Clarke.

Guest Editorial

The present Macdonald College crisis is a barely tolerable finale to a campaign that has lasted for two and a half years. It began with the Gauthier Committee of the Ministry of Education in May, 1968, which gave the Faculty of Education no choice about moving to McGill's Main Campus, and "incited" the Faculty of Agriculture to consider a similar move. The University and the Faculty considered the Agriculture move at that time, rejected it temporarily, and in the spring of 1970, rejected it "finally" in adopting the Report of Senate's Yates Committee, chaired by Prof. H. H. Yates of the Department of Metallurgical Engineering in the Faculty of Engineering — a Report which was adopted unanimously in both Senate and the Board of Governors, and assured everyone interested that McGill would continue to have a Faculty of Agriculture and that it would continue to be located at Macdonald College.

With that encouragement, the students at Macdonald organized their own high school recruiting drive and have been very successful in demonstrating that we could adequately fill the Macdonald Campus with young people interested in a small college concentrating on biology, food science and agriculture.

However, the McGill authorities, being convinced that the only solution to the problem of getting more students at Mac was to establish a CEGEP at Mac, tried first to introduce this proposal into Senate, and when this was unsuccessful, settled for the establishment of a Senate Committee on CEGEPs and Related Problems. This Committee had only one real function, to establish ways and means of sharing the campus between the B.Sc. (Agr.), B.Sc. (F.Sc.) program and the CEGEP program. The Committee was finally discharged without making a final report to Senate.

The original proposal to turn Macdonald into a CEGEP was not considered appropriate by the West Island CEGEP organizing committee, which preferred a location further East. It had been dismissed as undesirable by the Honourable J. D. Cardinal in communications to the University.

It was, therefore, a shock to find that senior administrators of the University in Task Force meetings during the summer had developed proposals to move the Faculty to the Main Campus, and announced these to the world, (and thereby to the Ministry of Education and to the local CEGEP authorities) on September 15, 1970, without prior consultation with the Faculty. The writer was informed on a basis of confidentiality only on September 2, 1970.

Since then, the Faculty has risen to beat down this latest threat, from within the University, to move the Faculty to the asphalt jungle, and to turn the present campus into a CEGEP. In spite of the formidable arguments that have been amassed: — dealing with the legal aspects of Sir William Macdonald's donation, and the rights of the heirs to recover both the endowment funds and the property itself if McGill ceases to use it for Sir William's purposes; — dealing with the harm such a move would do to the morale and retention of our staff, the enrolment of students and the continuation of service programs; — dealing with the financial fallacies involved in the fictitious $1,000,000 saving (it appears to be about $250,000!) and; — dealing with the errors in planning which, it is now known, require a major building in Montreal to house Agriculture, rather than as proposed, fitting it into space in the various Departments in Montreal (these Departments do not have space!).

In spite of all these arguments, the Senate and the Board have agreed to refer the matter to still another Committee, to report not later than December 14, 1970.

The basic question facing McGill is whether, in fact, it wants a Faculty of Agriculture, and what it costs to maintain it! The cost-benefit analysis that has to be done, can (for the first time!) assess the Macdonald Campus costs, but the benefits are subjective. Perhaps the most competent judges are outside the University and the Faculty itself — the graduates, those people whose lives have been affected by Macdonald services, and those organizations which use Macdonald graduates and the services provided by staff.

Many things we are proud of — we have the most competent staff, man for man, of any Faculty of Agriculture in Canada — our research and service records are accomplishments which measure well in the eyes of our friends in other Provinces — our service to the Quebec community has made friends for Macdonald everywhere in the Province.

I am proudest of all of the way you, our friends in the Province, have made your sentiments felt in messages to the Principal and to the Chairman of the Board of Governors, and the support this has given to both staff and students. The spirit in the Clan Macdonald was never better.

The Macdonald idea is not going to die and is going to continue to grow and develop on Sir William's Campus at Ste. Annes. God grant that this present attempt to destroy it will be the last and that you and I will have a Merry Christmas, after the December meeting of the Board of Governors.

H. G. Dion, Dean.

PESTICIDES...

The cell is the basic building block of all plants and animals. Enclosed in this single microscopic unit are all the parts necessary to carry on the survival of life. An important component within the cell is the nucleus where the chromosomes are located. The chromosomes are the bearers of the hereditary factors — the genes — which are comprised of deoxyribonucleic acid (DNA). Excluding the mode of inheritance of some viruses, DNA is the key to heredity and the basis of life. The genes specify the many different proteins that perform specialized tasks in the body according to the precise instructions spelled out by the DNA. The fact that cells are produced exactly like the previous one is the result of the prodigious feat of DNA to create an exact replica of itself **ad infinitum.**

If DNA can produce many millions of exact copies of itself without error, what accounts for mutations, the genetic mishaps — the freaks and "sports" that occur in both animal and plant life? Mutations are usually caused by attacks on the nucleus from radiation, heat, or chemicals. A disruption of the DNA by such an agent will cause a garbling of part of its coded message so that there will be a change in the instructions for the building of its proteins. The result may range from a simple minute change in a character, such as shape or colour, to more serious effects on viability, to the development of some types of cancers and tumours, and to gross malformations such as the limb deformities in infants produced by thalidomide.

In 1927, Muller established that radiation could induce mutations in the fruit fly, **Drosophila melanogaster.** Other investigators found that various kinds of radiations cause mutations, chromosomal aberrations (such as breakage and rearrangements

AND HEREDITY

of chromosomal segments) and other cellular effects. Following the report in 1944 by Auerbach and Robson that mustard gas could induce mutations and chromosomal aberrations, further studies revealed a variety of chemicals which could produce the same kind of effects as X-rays.

The first observation of a reduction in fertility to be correlated with cytological abnormalities as a result of pesticide treatment dates back to 1930 when Kostoff observed seed set of tobacco plants to be greatly reduced after the plants had been fumigated with nicotine sulphate. In an examination of meiosis he found many chromosome irregularities which lead to the partial sterility of the plants. Subsequently, a number of investigators have made similar observations.

The chlorinated hydrocarbon insecticides — Aldrin, Chlordane, Dieldrin, DDT, Endrin, Heptaclor and Lindane — cause chromosome breakage and many secondary effects, such as reduced fertility. In addition, these insecticides produce gene mutations — notably a mutation to resistance, in a similar manner as bacteria develop resistance to certain antibiotics. Several hundred plants and animals are now known to be resistant to pesticides.

The level of DDT in the human body has reached the point where it is considered that if we were up for a slaughter auction we would be condemned. The DDT content in the milk of nursing mothers has been found to be two to six times the amount allowed in milk for commercial sale. That DDT in the human body poses a real threat is borne out by the fact that cancer victims have been found with 2 to 2.5 times more DDT in their fat than occurs in the normal population.

The carbamates — Avadex, Barban, Chlorpropham (CIPC), CDAA, Propham (IPC), Sevin, etc. — cause chromosome breakage, but like colchicine, are noted for producing polyploid cells, that is, having additional sets of chromosomes — characteristic of certain types of cancer.

Many organic phosphate insecticides, such as Dipterex, Systox and Phosphamidon, have been found to induce chromosome aberrations. Chlorthion and Gusathion cause a cessation of cell division similar to the carbamates. Pea seeds exposed to low vapour concentrations of Vapona produce plants with leaf spots as a result of mutations.

Some plant growth regulators, such as maleic hydrazide will cause pollen sterility and a lowering of seed set. Their primary growth retardant action would appear to be a slowing down of nuclear division as a result of the interference of chromosome movement and chromosome breakage.

Mutations have been produced in many field crops with herbicides and malformations and reduced fertility may be observed for several generations. Alfalfa and sunflowers are extremely sensitive to the herbicide Picloram and can only be established as a crop in fields without mutants appearing after a five year soil-free Picloram period.

Our most stable weedy habitats, along roadsides, ditches and utility right-of-ways, have been subject to herbicide control in many areas. The use of herbicides for such practises may induce gene changes which could increase resistance of certain species, eliminate certain species from the flora as a result of their extreme susceptibility, and create morphological differences sufficient for taxonomic recognition and promote the evolution of weed species. In addition, treatment would affect nontarget organisms such as insects which likewise might be eliminated or become resistant.

The phenoxy herbicides 2,4-D and 2,4,5-T have received wide publicity over the past year since these herbicides have been widely used as defoliants in Vietnam. About 100,000 acres of mangrove trees have been sprayed for several years with the result that bamboo is rapidly invading the defoliated areas and will become the dominant component of the vegetation.

These herbicides also present a serious health hazard to humans. A report carried out for the U. S. National Cancer Institute showed that 2,4,5-T could induce gross birth deformities in mice as well as produce tumours. In addition, 2,4-D, five insecticides (including DDT) and five fungicides induced a significantly elevated incidence of tumours, mostly of the liver.

A study in Canada in which 2, 4, 5 -T was included in the food given to pregnant rats has shown similar effects. Blindness occurred in 30 per cent of the cases, and diseased kidneys, cleft palates, and

Effects of pesticides on mitosis. Chromosome breakage affecting a few of the chromosomes (Fig. 1). Chromosome fragments in anaphase (Fig. 2). Chromosome bridge and fragment (Fig. 3). Polyploid nuclei (Fig. 4).

facial deformities, were found. In Canada, 2-4,5-T is used to control weeds in wheat, oats and barley crops. It is also used as a turf treatment on home lawns and golf courses. Railway and utility companies use 2,4,5-T in regular weed control programs along their right-of-ways.

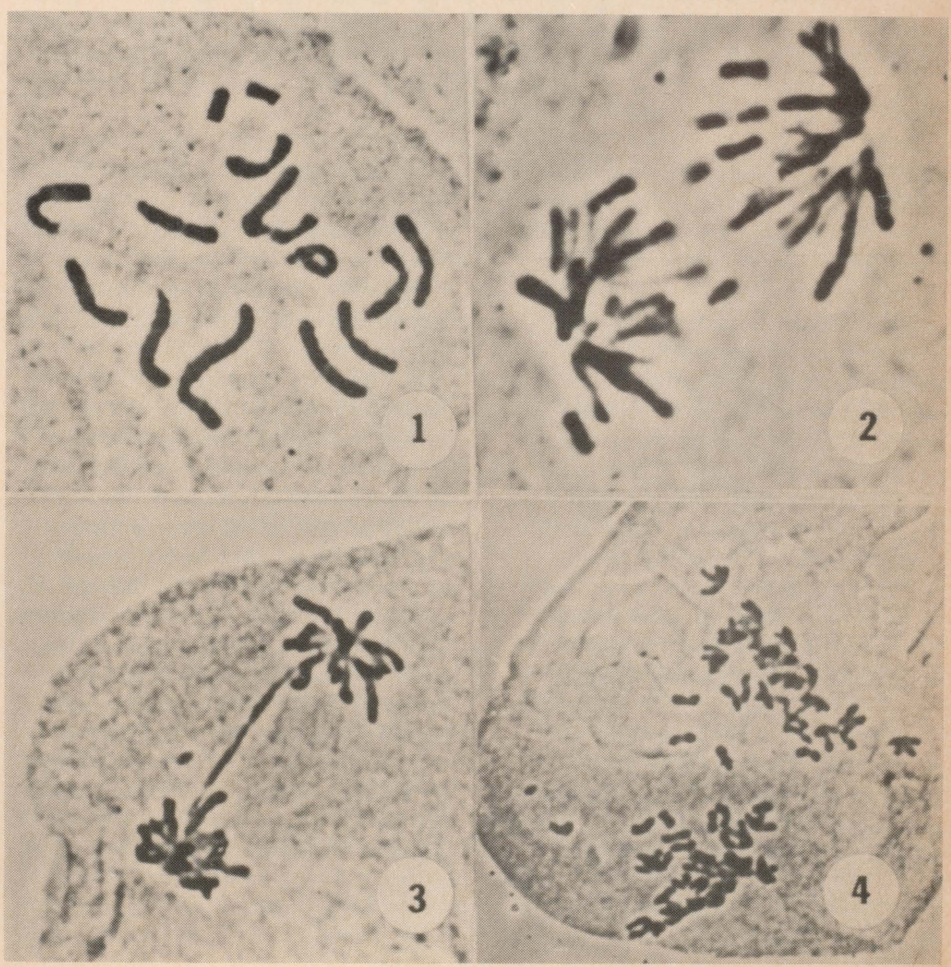
It has recently been suggested that a contaminant (dioxin) ordinarily present in 2,4,5-T is a possible source of the teratogenic effects. If so, dioxin is at least 10,000 times more powerful in rats than thalidomide was found to be in rabbits. Government scientists in the United States are now speculating on the possibility that the deaths of millions of young chicks were at the end of a chain that began with the spraying of corn crops with 2,4,5-T. The hypothesis is that residues of dioxin present in the 2,4,5-T remained in the harvested corn and were concentrated into certain by-products that were then sold to manufacturers of chicken feed. In a laboratory study on the effect of dioxin, all chick embryos were killed by one-twenty-millionth of a gram per egg.

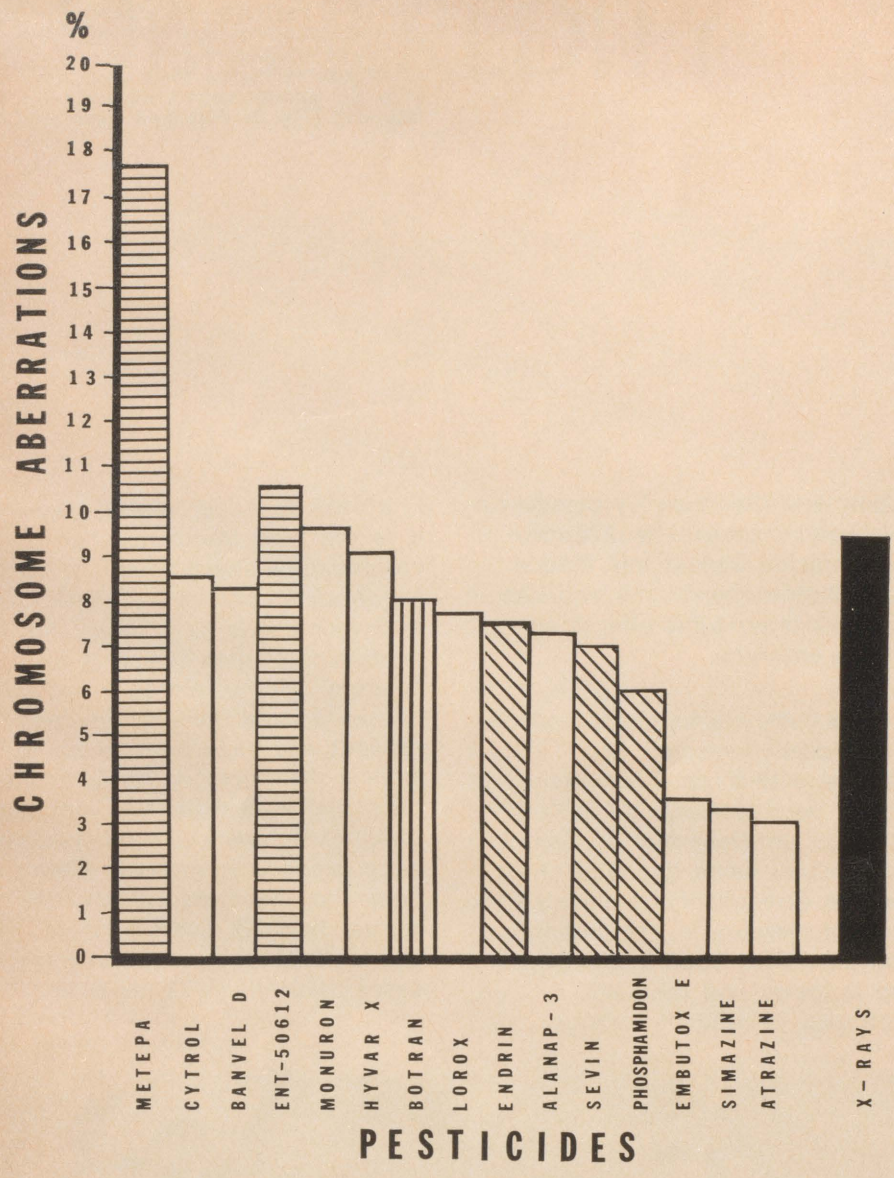
In raising locusts in the laboratory we have observed symptoms in the locusts typical of pesticide poisoning when they have been fed lettuce purchased in supermarkets. We have found that the outer leaves must be discarded even after they are thoroughly washed as many of the locusts develop paralysis and die.

A number of fungicides have also been reported to cause various chromosome abnormalities. Mutations have been produced in the fungus **Aspergillus** with Ferbam and dwarf barley plants have been produced with Botran. The fungicide Captan can induce chromosome aberrations and has produced teratogenic effects on chicken embryos.

It is the mercuric fungicides which have recently received wide publicity with birds dying from treated seed (pheasants in Alberta), and fishermen in Canada and Sweden being deprived of a living as a result of the elevated levels of mercury in fish originating from slimicides used in the paper-pulp industry and mercury electrodes in other industries.

From the genetics point of view it is the high frequencies of chromosome aberrations in cells of lymphocyte cultures from individuals in Sweden who have eaten the contaminated fish which is of concern. Methyl mercury easily passes across the placenta and rat foetuses have been found to have higher mercury levels in the brain and liver than their mothers. Children of Japanese mothers who were exposed to mercury during pregnancy have disorders of the central nervous system, their balance is disturbed and in some cases, their vision is impaired.





Percentage chromosomal aberrations induced by pesticides in barley root tips. Horizontal lines, insect chemosterilants; diagonal lines, insecticides; vertical lines, fungicide; no hatching, herbicides; solid black, effect of seed treatment with 5,500 R X-rays for comparative purposes, an exposure equivalent to approximately 50% sterility in barley.

Investigations are underway to determine if methyl mercury-induced chromosome damage is responsible for such abnormal offspring.

The general effects on the body cells by some pesticides are similar to those of radiation. It is well known that chromosome breakage in body cells may lead to leukemia as it has in the case of the watch dial painters and the uranium workers. Lung and thyroid cancers also result in persons who have been exposed to radiation. Such problems as these can be handled by well-established medical procedures, but it is the quiet insidious effects — unplanned stress, deterioration of memory and reaction time, tremors and convulsions, allergies, genetic-human environmental social interactions that are worrisome.

The reproductive cells are more sensitive to mutagens than somatic cells. Bird and fish embryos die and sterility occurs in both plants and animals. This is genetic death — the end of the line for these individuals. Hence, it is the individuals who reproduce that are the worry for Geneticists. The large majority of mutations are recessives and although unharmful to the individuals carrying them, when brought together at the time of conception produce a harmful effect to the developing embryo. It is estimated that two percent of the babies born have defects of mutational origin, such as congenital malformations, mental defectives, epilepsy, cutaneous and skeletal defects, visual and aural defects. Recently, it has been estimated that in the U.S.A., the total costs to society of one malformed child are in the region of one million dollars. However, for genetic hazards, we cannot predict the future extent and degree of damage to succeeding generations.

One of the major causes for concern by geneticists is that it requires a number of years, or generations, for genetic mutations or cancer to manifest itself. The peak incidence of leukemia is about six years after exposure to irradiation. It is because of the long time that is necessary for the manifestation of the effects that the hazards attending long term exposure to pesticides are just beginning to be fully realized.

Dr. W. F. Grant,
Genetics Laboratory.

STUDYING down under

"Australia, here I come!" This was the thought when final approval was given to a proposal allowing me to complete one year of my McGill B.Sc. Agriculture studies at the University of Queensland. Here was a golden opportunity to see part of the land "down under" and a chance to study some tropical agriculture. So in January 1970, bags were packed, farewells said, and a year of study and adventure began in Australia's "Sunshine" State," Queensland. And since that time, with so much to see, the days have hardly been long enough.

And what is the University of Queensland like? It was perhaps a minor disappointment to find the campus, the student population and the University atmosphere much like that of any Canadian university. However, studying agriculture at Queensland is somewhat different from studying agriculturure at Macdonald, the difference being one of climate. For as one moves from a temperate to sub-tropical region, the types of crops and techniques studied vary, but the teaching methods can change somewhat as well. For example, a decided advantage of studying agriculture in a sub-tropical region is the opportunity to do field work throughout the academic year. The Queensland agriculture faculty takes advantage of this opportunity by making tours and field trips an essential part of many courses. Each of the four years of the B.A. Sci. program enjoys several excursions ranging from day tours and field labs to the fourth year "northern tour".

A typical tour this year was one with a fourth year Soil Fertility course. The "dirt trip", as it became known, was a four-day expedition to the Darling Downs, a wheat and sorghum growing area in southeast Queensland. Although most of the first week of a three-week vacation was taken by the trip, student enthusiasm seemed quite high. Whether this was due to a burning desire to auger as many cores, study as many soil profiles and conduct as many pH tests as was possible during the short time, or else the fun of camping together without all the conveniences of home, is quite another matter. And camp we did, at a showgrounds not unlike any to be found in Quebec. Adequate "tucker" had been purchased in Brisbane and, when the cooking roster was drawn up, everyone was awarded three opportunities to exhibit his culinary capabilities. The results were surprisingly good, although no one reported any weight gain.

The days were spent travelling by bus, stopping at various points to examine a few soil characteristics, to discuss problems associated with various soil types, and to talk with farmers. In theory, most of the information could have been passed along to the student in the classroom, but this is indeed in theory only. Most students came away from the trip with a better knowledge of a few soils, but more important they also had a greater appreciation of problems they might be faced with in their careers as agriculturalists. The ultimate excursion though is the 'northern tour'. For this final excursion, the entire fourth year class spends almost three weeks travelling through north and west Queensland by train, stopping at various places. With Queensland's great diversity there is much to see. Needless to say, most agriculture students look forward to the time when they too will be able to go on the northern tour. More than just a last good time together, this tour is an excellent learning experience givin the student a good overall view of agriculture in his state.

But there are disadvantages to studying in a 'Sunshine' State as well. For instance, the old problem of finding adequate finance become even more difficult. The extremes of Canada's climate create seasona demands for labour and allows many students to work at well-paying jobs during the summer. The savings from this work often become the basic resource to meet tuition and living expenses during the following school year.

But in a climate with relatively little seasonal change, summer labour is not in great demand and, therefore, few students find good employment during the December to March summer holiday. Family resources, loans, and scholarships are possible sources of support. Several students, particularly in agriculture, become employed by a particular organization at the end of secondary school and possibly after a couple of years come to university with part pay. So maybe the long, cold Canadian winter does have some merits for people other than the skiers or the curlers after all.

Of course, many of the crops studied in agronomy classes have been new to me, and a little extra effort was required to keep abreast with students who are more familiar with them. However, the concern and helpful attitude of my classmates must not go unmentioned. For instance, on one particular field trip, about 12 agronomy students were inspectin the tobacco crop on a farm near Brisbane. Just across the fence, on the next farm, was a field of

1. A winter scene outside the agriculture building.
2. A sorghum experiment in a modern greenhouse.
3. D. T. A student Peter Bryant examines a few tropical pasture species.

pineapples and harvesting was in progress. Realizing the educational value of a visit to that farm, a few students approached the professor to inform him that the Canadian student had never seen pineapples growing before. Furthermore, they would like to show the poor fellow the crop while such an excellent opportunity presented itself. With permission duly granted, we scrambled over the fence and were soon talking to the plantation owner. A few minutes passed. Came the obvious question, "How much do you sell the pines for in the field?" And the hoped-for answer, "Ah, take a couple along for your lunch." So we obliged, and soon left with a couple pines. Well, just a few. In fact, I don't think anyone had more than four or five.

As is the case at McGill, the student population of Queensland's agriculture faculty is quite international with many parts of the globe being represented. Undergraduate and graduate courses each claim a few of the overseas students. But one Queensland program that is predominantly international is the Diploma in Tropical Agronomy.

The D.T.A. is a graduate course of one year duration. Students must follow a selection of undergraduate courses, two graduate courses, and they must conduct a research experiment. This gives a good introduction to problems and research in the field of tropical agronomy.

Just as the academic qualifications and backgrounds of the students are varied, so are the reasons for taking the course. Some candidates with a B.Sc. in agriculture wish to extend their training without becoming involved in a Masters or Doctorate program. A few have already completed graduate work, some with their Ph.D., but wish to have an introduction to tropical aspects of agronomy. Still others have been trained in some other science discipline and desire some knowledge of agriculture as preparation for a particular job. This course is then valuable in a variety of ways, hence its increasing popularity.

My classmates would not forgive failure to mention their new building. Although parts are still to be completed, the spacious, modern Agriculture — Entomology building was opened in 1969. And, I'm told, a welcome relief it was from the cramped quarters in the Biological Sciences building.

Facilities are excellent. Carpeted lecture and seminar rooms with comfortable seats and fold-away tables help make note-taking a more pleasant task. As well, there are plenty of well equipped laboratories for undergraduate, graduate and staff use. And just to the rear of the building are several modern glasshouses. So every student does have a good reason for being proud of the faculty building.

Need I say that this has been an extremely exciting and useful year of my college career! More about the merits of the exchange year, farming in Queensland and a few impressions of the Queenslanders themselves next time.

Arthur McElroy

The Family Farm

Published in the interests
of the farmers of the province
by the Quebec Department of
Agriculture and Colonization

Honey and Maple Kings Crowned at Expo-Quebec

At a ceremony last September presided over by the minister of Agriculture and Colonization, Mr. Normand Toupin, in the Palace of Arts at Expo-Quebec, Mr. Robert Villeneuve of St-Louis-de-Pintendre in Lévis county was crowned Honey King, and Mr. Joseph G. Mackay of Marbleton in Wolfe county was crowned Maple King.

Mr. Mackay has already won the honour in 1966, 1967 and 1968, but it is a first time for Mr. Villeneuve. Second and third places in the maple products contest went to Mr. L. H. Geweet of Mansonville, Brome county, and Mr. Pierre Therrien of Black Lake, Megantic.

Mr. Toupin awarded trophies and a number of prizes in the form of cash and goods offered by the department of Agriculture and Colonization and various private enterprises.

Heads of the agriculture department's services, a representative of the city of Quebec, and some presidents and representatives of maple and honey industries and cooperatives attended this twentieth crowning ceremony.

The honey and maple products exhibited were sold by auction in the mall connecting the youth and Congress pavilions. (This was a good chance to buy supplies before the bees went on strike fo shorter flowers and more honey.) The proceeds of the sale went to the exhibitors. The auction was a new effort by the department of Agriculture and Colonization to encourage better promotion of finest quality honey and maple products.

Aid to Improve the Health and Genetic Quality of Sheep

The Department of Agriculture and Colonization is aware of the harm being done to our flocks of sheep by certain diseases and is anxious to put a stop to it, especially in view of repeated requests from sheep breeders' associations; it is also convinced of the basic importance of the hereditary factor for increasing the profitability of sheep raising.

In order to encourage sheep breeders to enroll in a provincial program to improve the health and breeding quality of their flocks, the Department offers them the benefits of this assistance policy with the aim of improving health conditions and inculcating essential principles of preventive hygiene.

The following are eligible: a) Breeders of purebred sheep having a classified flock; b) Members of regional sheep breeders' associations who meet the established regulations as regards the number of animals.

The applicant must: 1. Submit an application to the director of the Veterinary Service; 2. Satisfy

minimum requirements concerning buildings, equipment, and flock management; fulfillment of these requirements is judged by veterinarians duly authorized by the Veterinary Service; 3.Undertake to: a) keep a complete record of births, deaths, and sales of all sheep born on his farm; b) mark all lambs born on his farm, at birth; c) allow the authorized veterinarian to make all necessary inspections, give him all the information required, and pay the expenses thus incurred; d) strictly carry out the veterinarian's instructions concerning a health program for sheep flocks.

The Department of Agriculture and Colonization provides the following assistance to help breeders meet the requirements of this provincial program:

Technical Aid: the facilities of its provincial and regional laboratories and reimbursement of the veterinary fees paid by the breeder for the three inspections carried out on his farm by the veterinarian during the year. The said fees are $12 per hour, $25 per half-day, and $45 per day. Automobile expenses will be paid according to the distance separating the veterinarian from the farm: 20 to 30 miles, $5; 30 to 40 miles, $7.50; 40 to 50 miles, $10; 50 miles and over, $15. A receipted bill signed by the veterinarian will be accepted as proof of payment, and claims for reimbursement will be payable in June and December.

Aid for Selection: A grant of $15 will be paid on each ram lamb which is accepted when classified for type but whose index of gain proves to be less than the average for its breed in a record of performance test for rams at the station or on the farm. Such rams will be identified by a permanent disqualifying marking.

This assistance policy is temporary and will remain in force until further notice.

A Must in Reading

"Food Resources" by N. W. Pirie (Pelican Books A1045)

The book reminds us of the speaker who said: "These are not my ideas; they are by someone who knows what he is talking about" — in other words, the author is clearly very well informed.

Many people have probably been reduced to a state of confusion about the world's food situation by seemingly conflicting stories of shortages, surpluses, starvation, overweight, the population explosion (the world's population is supposed to reach infinity on Friday, November 13, 2026), birth control, multiple births, food synthesis, growing yeasts in oil, farming the sea, and so forth. For such people and for others who may be wondering what you can get that's good for about a dollar nowadays, N. W. Pirie's "Food Resources", published in 1969 at a Canadian price of $1.15, is well worth having.

The author is head of the biochemistry department at Rothamsted Experimental Station; an increasing proportion of his time being now devoted to problems connected with the supply of edible protein from leaves and other sources, including direct extraction from leaves instead of through the costly process of feeding them to animals.

His sober estimate of the world's food problem is that **"If** the birth rate remains as it is and **if** mortality continues to decline, there will be a famine **unless** agricultural production is greatly increased or new methods of making food are developed. His book is mainly concerned with these possibilities, with emphasis on protein, which he considers to be the nub of the problem; it is plainly and interestingly — sometimes amusingly — written, as the following excerpts show:

On biological control of insects —

"The concept now includes a very successful technique for destroying those insect species in which the female copulates only once. Males are reared in enormous numbers and liberated after being sterilized by exposure to X-rays; females encountering this group of males do not lay fertile eggs."

"Attempts are being made to use sex attractants. These are substances normally made by one sex of an insect species and, at dilutions that come near to being incredible, attract insects of the other sex of the same species, and only of that species. Having been collected in this way the pest can be disposed of without significant harm to harmless or beneficial species."

On how the body makes proteins from amino acids—

"Protein synthesis depends on income not capital. The amino acids are carried round in the blood stream and those that are not picked up by a cell and used by it are ultimately used merely as sources of energy. The process is analogous to the assembly of an

intricate device containing several hundred parts of twenty types which pass the assembler on a belt conveyor; those parts that are not needed at any given moment pass on and are destroyed. In the body, because of the circulation of the blood, the amino acids pass many assembly points and pass each several times. But the underlying principle of the analogy, that the necessary parts are not kept in store by the assembler, remains. Protein synthesis cannot therefore be an efficient process . . . . Just as human ability depends less on the amount of information a person has than on the skill with which the information is deployed, so the ideal nutritional state may depend less on the amount of protein present . . . than on the ability to respond quickly to the need for a particular protein."

On short-stemmed varieties of cereals —

"Until it was discovered that much of the starch in a cereal grain is made by photosynthesis in the ear itself rather than in the leaf blades, short-strawed varieties with little leaf were not prized because it was thought that they had inadequate photosynthetic equipment. And until there was general realization that the shortage of good quality protein was the world's principal nutritional problem, the quality of the protein in maize varieties was not investigated."

On special merits of plants and animals as food producers —

"The young Clerk Maxwell used to start discussions about any novel device by asking what was its 'particular go'; that is to say, what was the feature that gave it whatever peculiar merit it had. His example should be more widely followed for we often use organisms in ways that do not bring out their particular potentialities. The 'particular go' of green plants is photosynthesis. They start with sunlight, water, carbon dioxide and simple nitrogen compounds and make foodstuffs; they are the only primary converters. Other organisms shuffle and convert what plants have made. The 'particular go' of ruminant animals is that they are mobile and so can harvest their own fodder from land even when it is unsuitable for ploughing; that they can digest fibrous materials which single-stomached animals cannot use; and that, to a greater extent than other animals, they can use simple nitrogen compounds." (A ruminant might be said to be a self-propelled, self-reproducing, self-regulating fermenter). "The 'particular go' of microorganisms is similar; using carbohydrates which plants have made, they make proteins from simple nitrogen compounds. These points are often overlooked."

"Vegetation is wasted by using it as plant food by way of green manure or compost; ruminants are stall-fed on foods we could have eaten ourselves; and microorganisms are used simply to destroy organic matter, and then others (as in sewage works) are used to destroy the first. In so far as things like this are done, biological potentialities are being under-exploited. The processes may be convenient, may be profitable, and may give novelty products . . . but they yield less than the possible return per acre and so are inefficient.

There is a great deal of muddled thinking about the efficiency of food conversion in animals. When an animal eats something that we could not eat and could not readily turn into food in some other way, or when it lives on fodder that we could not have harvested, the question of efficiency does not arise. We either feed an animal on it or waste the fodder. But when an animal eats something we could have used or something growing on land we could have used to grow human food, efficiency has a real meaning. Animals . . . seldom return as much as a tenth of what they eat."

There is a lot of good sense — perhaps the fruit of experience — and humour in this book, for instance: Regarding difficulties in getting people to accept new foods:

"Familiarity with pictures of pineapples or tomatoes on cans . . . led some people to reject 'Lease-lend' dried eggs from the United States that came in packages bearing the American insignia because they did not like the idea of eating eagles' eggs, and, it is said, there was reluctance in Fiji to use a brand of baby food which had a picture of a baby on the can."

"Introduction of a new food should proceed from privileged to underprivileged — not vice versa. It is important to avoid giving the impression that the existing food pattern is being disparaged — it should be supplemented not overthrown."

"During the mismanaged intervention in South Russia in 1918, a group of British soldiers came near to mutiny when they were given caviar because other food was running short. Their complaint to the commanding officer was: 'It's this here jam, Sir. It tastes of fish'."

On unusual foods —

"David Livingstone preferred locusts to shrimps, and, in the upper reaches of the Amazon, beetles are added to the stew not only for their food value but also because they provide 'something crunchy to bite on'."

"Much of the population (of Britain) has taken to breakfasting off material that resembles in texture the thermal insulation around water tanks."

"In that well-fed community (the United States) there is no reason to think that success goes to the food item that gives the best nutritional value for money, even if the public knows which item this is. Success depends rather on having a reasonably good product, superb blarney, and an attractive name."

On fertilizers —

"Chemical fertilizers are called "devil dusts" by the muck and magic school and artificial fertilizers by those who favour them."

On crop plants —
"These have been called 'dung heap super weeds'."

On traditional farming methods —

"Much of conventional agricultural practice . . . is a technique for controlling weeds . . . many good results were supposed to follow the ritual of turning the soil over."

On pest control —

"It has been sardonically suggested that the list of beneficial insects might be extended to include the tse-tse fly because, by restricting the number of cattle that can be kept in much of Africa, it diminishes over-grazing and soil erosion."

On charity in the shape of food shipments —

"This has little effect on the real problem, for three reasons — there isn't enough food; it isn't a permanent answer; it saps initiative . . . The work of charitable foundations such as Oxfam is magnificent and has relieved a great deal of human suffering but it is essentially palliative and does not get to the root of the matter . . . Maimonides concluded 800 years ago that the most meritorious mode of charity was to act in such a way that charity became unnecessary."

On malnutrition —

"It can be regarded as a technological triumph that it is now possible to produce appetizing food that supplies the necessary amount of the bulk components while being grossly deficient in some minor ones . . . hitherto a diet that was deficient tended to be unappealing too."

"The real deficiency is often, unfortunately, the one that is most widespread: the ability to apply existing knowledge."

On priorities —

"About a third of the world's cattle are in India and Africa; most of them are grossly underfed and unproductive. Reform will not be hastened by nagging from outside. Every community tends to devote an amount of effort to unproductive activity that seems to outsiders unreasonable. In the middle ages, cathedrals were built by people who lived in hovels, and we (in Britain) now spend more on space research than on research in agriculture and medicine."

"The quickest way to get these things (equipment and materials in India) is to import them: the cheapest and most effective way is to learn how to make them. As early as 1958, the director of the Indian statistical Institute summed the position up concisely. For £340 million, India could buy the grain that is needed immediately; for £100 million, fertilizer plants could be imported that would be a permanent asset but only after five years; and for £10 million, engineering works could be set up that would make the plant during ten years and be another permanent asset."

"The priorities seem to be wrong and are leading to a situation in which the inhabitants of some countries should soon be able, in air-conditioned comfort, to watch each other getting hungrier on colour television."

On alternative energy sources in foods —

"The usual types of carbohydrates and fats are not the only carbon compounds we can use as energy sources. That is why their large-scale synthesis was not considered probable. These substances are quite unnecessarily complicated and expensive to synthesize. Alcohol can replace carbohydrate and fat (used in moderation). Alcohol has been used to replace a large proportion of the normal energy sources in pig feed. The pigs did well, although those getting about half their energy as alcohol tended to sit back on their haunches and gaze dreamily at the ceiling."

On innovations in farming —

"It costs as much money and more in time to train 1,000 farmers to use a technique as it costs to do the research on which the technique was based. Existing agricultural extension services could give this training if they were more adequately financed."

"In one country, the farmers would not buy an improved variety of seed, nor even use it when it was given away; but enough was stolen from experimental plots to open the way for general improvement. This was the technique Parmentier had used in the eighteenth century to introduce potatoes into France."

A reading of this entertaining and informative book leaves one with a sense of cautious optimism: the world's food requirements are going to increase enormously but there are also very large potential resources for meeting them. This book ought to be widely read.

Tom Pickup.

Milking Centre for Eastern Townships?

The department of Agriculture and Colonization's regional branch in the Eastern Townships together with members of the University of Sherbrooke, the U.C.C., and other local organizations is studying the advisability of a project for setting up a milking centre.

The project, conceived by a group of farmers, would involve combining a number of dairy herds, beginning with about 200 head and increasing to 1,000. It would include a milk pasteurizing plant and a cheese and yogurt factory. It would also involve the creation of a consumer's cooperative supplying the above-mentioned dairy products and also meat, fruit, and vegetables direct to the public.

The promoters of the project expect it to help production of high-quality milk by spreading the cost of modern equipment over a large number of cows. It would also solve shipping problems and reduce labour requirements. The results of the study will be made known in the fall.

Smaller Hogs Wanted on Quebec Markets This Fall

The Quebec department of Agriculture and Colonization's marketing division has advised the province's pig raisers to market their hogs at a lighter weight. In a brief report on the outlook for hog production in Quebec, specialists of the division explain that this would reduce the amount of pork on the market and cut down losses to producers. They point out that falling prices are causing pig raisers to market heavier hogs to make up for the lower price per hundredweight, but that this results in higher feeding costs (because it takes a lot of feed to put on the extra pounds). Also, heavier carcasses are more likely to earn lower grades and smaller prices.

The agricultural department's specialists emphasize that hog production is increasing, especially in the West. They expect shipments of hogs to Canadian markets to rise by about 13 percent in the third quarter of this year and by 17 percent between October 1970 and March 1971.

Our shipments of hogs to the United States exceed theirs to us. Their market prices are thus of great interest to us.

The marketing division reckons that if, as is to be expected, U.S. hog prices fall to $21 or $22 a hundred liveweight, the price on the rail at Montreal might be between $25 or $27 or even lower.

The division estimates that the average weight of the hog carcasses produced in Quebec has risen by about seven pounds during the past two years and that producers should takes steps to remedy the situation. It is calculated that a reduction of seven or eight pounds in the weight of each carcass would be equivalent to a reduction in the number of hogs slaughtered by one in twenty. This would do much to save Quebec hog producers from the disappointments which are foreseeable at present.

This Month with the QWI

Argenteuil
Arundel: With 15 members and 25 guests present, the branch heard a very interesting talk by Captain Buchan of Halfway House, in Montreal. He spoke on his work in rehabilitating ex-convicts. Roll call was name a Prime Minister. A successful bazaar was held in August. Brownsburg: Made plans for the Handicraft Tea and also for the annual car drive through the Laurentians for the town's senior citizens. Dalesville-Louisa: Had a demonstration on the covering of coat hangers. Members paid a penny for each inch of their waistline. Frontier: Members took a bus trip to Fairview shopping centre in the morning and after dinner proceeded to a member's home in Lasalle to hold their meeting. An interesting talk was given on the Lachute Residence. Upper Lachute-East End: Heard Mr. Leggitt from the Regional School speak on Adult Education and some of the courses available. Twenty-three members and two guests were present and plans were made to hold a card party in the Orange Hall, Oct. 28.

Baldwin Cartier
West-Island: Mr. Glen Hodgins of the Côte St. Luc Youth Clinic held a question and answer period on the use of narcotics, Mr. Hodgins works closely with teen-agers who come to the clinic for help. He was well informed as to how much of a problem there is, and what a need there is for more communication between children and parents. It was decided at the meeting that our branch would go all out to get some new members for our next meeting. Our pet project, Allencroft Home for children, was also discussed. It was decided that we would provide birthday gifts for the children. The roll call was one cent for each letter of your name. A bake sale is planned for October to raise funds.

Chateauguay-Huntingdon
Aubrey-Riverfield: Mrs. E. Moore, podiatrist, of Dewittville spoke on the care of the feet under the headings of prevention, diagnosis and treatment of foot ailments. Branch catered to a lunch for 4-H club show. A sunshine basket was sent to a member and plans were made for a euchre party for October meeting. Dundee: Enjoyed a demonstration on repairing venetian blinds with iron-on tape. Five dollars was donated to Huntingdon County Fair toward prizes. Five large packages of used clothing were delivered to Unitarian Service Committee Depot in Pointe Claire. Howick: Mrs. Robert McFarlane spoke on the Canadian Indian and a discussion followed. A contest was held on bran muffins. Each member brought three to the meeting to be judged. Huntingdon: Mrs. E. M. Wood entertained the branch at her home on Sept. 15. Roll call was name your first or last teacher with an anecdote concerning her. Conveners' reports were: Agriculture — A new strain of elm which resists disease, called the Quebec Elm developed at L'Assomption. It could be on the market within a year. Citizenship: requested that the code of Human Rights laws be amended as there is too much discrimination against ethnic groups, senior citizens, and women in housing where existing laws are incomplete and lack clarity. Education: Reported no applications for either the scholarship or loan. Home Economics: Use of soap recommended, with addition of washing soda or borax, to soften water. In extra hard water, some soda or borax in a warm rinse is best for all types of washers, including automatics. Every one of us must fight phosphate pollution. Welfare and Health: While drugs are much before us, alcohol is still a real threat to youth, where the incidence of alcoholics before 20 years of age is very high. Ormstown: The August meeting took the form of a picnic at the home of Mrs. Alan Hooker on Lake St. Francis. At the September meeting Mrs. H. Milne spoke on the types of dresses worn in India showing their relationship to occupation. An Indian doll collection was used to illustrate her talk. A guessing game was enjoyed in which each member placed an article in a blown-up paper bag and the members guessed the contents of these bags.

Gaspe
Douglastown: Made $350 on a surprize box. Plans made for a card party and bake sale. Gaspe: A letter of congratulations was sent to Douglastown re their winning first prize for their play at the Convention. Conveners' items: How to clean gilt picture frames and Prince of Wales became Jolly King. Plans made for annual fair. Murdochville: Plans were finalized for participation in the Fair. Pennies for Friendship were collected. An article appearing in the Toronto Star entitled "We're No Egg Throwers", by David Cobb on Women's Institutes was read. A drawing was made for a blanket on which tickets had been sold.

Wakeham: Donation was sent to "Stop Buttons" to start a program to stop pollution. Articles were read on: The founding of Queen Alexandria Solarium on Vancouver Island by the W.I. in 1927; Sweets have a bad effect on children's teeth; put waxed paper in pan when melting chocolate to prevent burning.

Gatineau
Aylmer East: Held a picnic and cook-out at Luskville Falls. As this was our Grandmother's meeting, the Grandmothers put on the program of readings, recitations and a skit. Three members of Eardley W.I. were guests and took part in the program. Eardley: The roll call was "Slimming Ideas" and 50 cents for the Ade Home. Several members brought articles to be shown at Quyon Fair. Miss Jean Wilson of Ottawa gave a demonstration of different hair styles and wigs. Rupert: Exhibited at Quyon Fair. Slides of local interest were shown and enjoyed by all. Mrs. Monica Murphy won the guessing contest. Food sold to raise funds for the W.I. A full report was given of the work done at Rupert Cemetery. The total cost being $221.

Megantic
Inverness: Had the projector and duplicator checked and put in satisfactory condition. The President is inquiring about films to be used. Quilt and cushion made by the group were sold. Plans were made for a card party in October. Kinnear's Mills: Two sick friends were remembered with small gifts. Plans were made to cater to a wedding reception in the Community Hall. Jointly both branches discussed the School Fair held at Inverness.

Missisquoi
Cowansville: Spent a day at the County Museum in Stanbridge East. The regular monthly meeting was held at a Youth Hostel in Bolton Glen. A talk was given on the Botanical Gardens and an article read on the growing of roses. Another talk was given on the International Peace Gardens. Arrangements were made for visiting sick members. Fordyce: A visit was paid to the Botanical Gardens in Montreal. A talk was given on the International Peace Gardens. Voted $25 for hot lunches at school for needy pupils. The roll call was answered by four lines of verses composed by each member. Stanbridge East: Mrs. Henshaw, Executive Director of Community Services, spoke on the services rendered by this agency in the family and in the schools through occupational therapy. She answered many questions and told of the necessity of free lunches for indigent children. This branch donated $25 to the cause. Bouquets of cultivated or wild flowers were judged for artistic arrangements by Mr. Boulais of the Bedford Horticultural Society. Four prizes were awarded the winners by Mrs. Corey, Agriculture Convener. Fifteen money prizes were awarded to children for bouquets of wild flowers and tree leaves, named and mounted, at Bedford Fair. This is a special class sponsored by this branch of the W.I. A sale of food and fancy and useful articles held on the Museum grounds brought gratifying results.

Quebec
Valcartier: Final plans made for Labour Day barbecue and picnic. The program was under the Convenership of Education. This consisted of articles pertaining to education and contests. The roll call was name a famous person you would like to have known personally.

Richmond
Cleveland: Project was selling tickets on a quilt to raise funds. Prize winners of Gladioli Blooms, from bulbs given out in the spring, were Mrs. R. Healy, Mrs. G. Perkins and Mrs. Royce Taylor. Held demonstration on Sara Coventry Jewellery. Gore: Reception was held for 50th. Anniversary in Ulverton Church Hall. Invitations were extended to the Presidents and two members from each branch in the county. Provincial President, Mrs. Hazel Beattie, was an honoured guest. Presidents and Chartered Members received corsages. Chartered members were Mrs. Cora Nixon and Mrs. Cook, who now lives in Montreal. Mrs. Bill Gee gave the History of Gore Branch, written in four chapters, packed with ambitions, hard work and progress. The names of the Past Presidents were read. Deceased members were remembered with two minutes silence. Program consisted of: Impromptu Fashion Show. The oldest dress worn was 75 years old. There were readings, recitation, and a musical contest. An address was given by Mrs. Beattie. She spoke on the entertainment side of the FWIC Convention as well as the business side which kept them very busy and of how much she enjoyed her stay in Winnipeg. Mrs. Beattie wished Gore many more years of success. Mrs. Farant extended congratulations on behalf of herself and the County. Tea was served and each one present received a generous slice

of anniversary cake. A drawing on an afghan and two matching cushions was held and won by Mrs. E. L. Carson. Mrs. Cora Nixon was presented with a gift from the Gore President Mrs. Rodney Duffy. Richmond Hill: The Education Convener invited Mrs. Gerald Fowler, a teacher, from St. Francis Elementary School, who gave an informative talk on educating slow learners. She pointed out that cooperation, interest and close association of parents means a great deal in the children's progress. Contest was best collection of six asters. Sick and shut-ins were remembered with cards and Sunshine Baskets. Richmond Young Women: Held a spelling bee and an auction of white elephant articles. Shipton: Motto was "Some are wise and some are otherwise". Prizes donated for school fair. Food sale and drawing on an afghan brought in gratifying proceeds for the general funds. A donation of books for school prizes at the end of the year was received. Spooner Pond: Roll call was express your opinion on: Is regionalization proving to be a better system of education? Mr. B. Dewar, a Physical Education teacher for Richmond Regional and St. Francis Elementary Schools, explained (1) how and why regional schools were introduced, (2) subject promotion, (3) why physical education is a necessary part of a student's education. Mrs. Davidson gave a very good report on the W.I. Children's Fair. Five varieties of vegetables and three varieties of flowers were judged individually. There were also prizes for the best collection of vegetables. Each child received a good share of prize money. Mrs. Blanchard read a paper on pollution laws drawn up by Richmond county. Sunshine boxes and cards sent out, Pennies for Friendship and tea money collected. Birthday gift sent to a retarded boy at Dixville. Member who is moving away donated a hand-painted picture to be used to raise funds.

Shefford

Granby Hill: Roll call was how to postpone old age. Paper was read on pollution. A contest — scrambled letters representing names of well-known diseases — proved very interesting. Granby West: The Girl Guide Organization "Good-will Tour" sent a Girl Ranger who presented a most interesting and informative talk, illustrated by slides, on the Guides' Friendship Tour of Mexico. Each member is buying articles to fill a ditty bag for the Canadian Save the Children Fund. Waterloo-Warden: Roll call was if you had a son ready to go to college, which college would you choose and why? Article on pollution was read, also item on Mr. Reginald Pheaston, an inventor, formerly of East Bolton, and an article on the Women's Institute, read from the Gazette's "Days to Remember" column. Members played bingo with many winning prizes. Among the visitors was Mrs. Howard Ingram, who is a member of the Women's Institute of Langley, B.C. The members enjoyed a trip to and dinner at North Troy, Vermont, followed by a visit to Knowlton Museum. A quilt has been completed and will be raffled.

Sherbrooke

Belvedere: Two members attended FWIC Convention in Manitoba. They spoke on the Convention and showed slides of same. They also showed slides of the Peace Garden. Members sang new verses of the Opening Ode. Gave $25 to School Fair. Wedding gift was purchased for a bride and groom. Members worked at Fair Booth. Brompton Road: Roll call was name an unusual word and give its meaning. Jams and jellies given for the McKeage Nursing Home. Report given on Handicraft Booth at Sherbrooke Fair. Held a card party, using proceeds for Sherbrooke County School Fair. Milby: Wendell McKnight spoke on the Galt Regional School. Hanging flower baskets were judged by Mrs. Richard Brown, with prizes to: 1st Mrs. Stewart Cairns, 2nd Mrs. Roy Suitor, 3rd Mrs. Donald Coates. Mrs. Donald Coates showed the technique of decoupage and displayed some pictures she had made using this idea.

Stanstead

All Stanstead County W.I. members were gratified by the results in the needlework competition at the Ayer's Cliff Fair in which both W.I. and Cercle des Fermières branches in the County compete. The first three places were won by Institute branches; Beebe and Hatley being tied for first place, and Stanstead North running a close third. Two branches used recipes as their roll call subject. Ayer's Cliff members answered with a way of cooking a cheaper cut of meat; Hatley with "My favourite recipe for pickles or preserves." Beebe looked back on the vacation season with an interesting place I visited last summer. Stanstead North's was a teacher I remember and why. They observed Education Month. The annual school fair, to be held in September, occupied a share of the business meeting at all branches. Workers were recruited to help at the fair and to assist the children in filling out their exhibit tickets at the schools. The Agriculture Conveners at Beebe, Hatley, and Stanstead North reported visiting the gardens of children who took seeds. Prizes were given for good gardens. Other community service projects were reported. Hatley sent a needy child to camp for two weeks and entered a prize-winning float in the community July 1st celebration. Its members are taking charge of the cancer collection in their community. Beebe and Stanstead North served refreshments at the annual Red Cross blood donor's clinic in Rock Island. Money-raising projects included a drawing for an afghan at Ayer's Cliff and a "Yankee Swap" at Hatley Centre. Programs were varied. Ayer's Cliff saw a demonstration on decorating a birthday cake. Beebe heard a talk by Mrs. Marjorie Armstrong, matron of the Wales Home, on the history of that institution. They learned that the oldest resident at the home now is Mrs. Elizabeth Dalziel, 98, of Beebe. Hatley Centre heard an account of the unofficial visit to the FWIC convention at Winnipeg, of Mrs. Catherine Taite. Stanstead North enjoyed slides of their Education Convener's trip across the continent. During the summer two branches visited potteries, several of which have been established in the area during the last few years. Stanstead North members were guests at the pottery in Stanstead operated by Kent and Esther Benson. They saw a demonstration of throwing on a wheel and visited the kiln just cooled after a firing. Hatley members visited the Rosynaka Pottery in Ways Mills, watching the students at work and then viewing the gardens.

Congratulations! Mrs. George McGibbon, Past President of the Quebec Women's Institutes, was recently appointed 4th Vice President of the Federated Women's Institutes.

President's Report

The following is a report of the F.W.I.C. Triennial Convention which was held in Winnipeg last August. The theme of the convention was Communication — Keystone for Progress.

We met at the University of Manitoba and had very nice accommodations overlooking the Red River. Our sessions began by receiving kits and being registered. We were welcomed by our President, Mrs. Clark; the new Secretary, Mrs. Jarvis, was introduced and welcomed. We were guests for lunch at City Hall where our President was made an honourary citizen of Winnipeg. Everyone signed the Golden Book.

Mrs. Markham has accepted to represent F.W.I.C. at the A.C.W.W. Council for a second term. A four-page addition to the F.W.I.C. history has been printed and will be given out free of charge. This addition can be inserted in the back of the present history book.

On behalf of the 60,000 members in Canada, a telegram was sent to the Federal Government asking for immediate action to restore the postal service and to ensure that this service cannot again be disrupted due to strikes.

Reports were given by the President, Secretary, A.C.W.W. Vice President and the Standing Committees. Recommendations and the text of the full reports will be printed in the Annual Report. The International Peace Garden was given an additional $20 per year to be used, through the Manitoba W.I., to assist with the cost of providing electricity at the picnic tables.

The price of Federated News and F.W.I.C. pins will go up. Write to the National Office, Room 28, 46 Elgin Street, Ottawa 4. Cheques are to be made out to the F.W.I.C. and not to any person. Slides are to be ordered from the National Office and returned to them as soon as possible by registered mail.

The A.C.W.W. Conference will be held in Oslo, Norway in August, 1971. Appointed voting delegates and accredited visitors' names must be in the National Office by March 1, 1971. Entries by A.C.W.W. competitors must be in the National Office by February 1, 1971.

The handicraft sales at the Winnipeg Convention were very good and I understand over $1,000 was taken in. Pennies for Friendship did well, too.

On Saturday evening we were guests of the Manitoba University Ladies Club for lunch at the Ralph Connor Residence. We were then taken by the Manitoba W.I. to Rainbow Stage Kildonan Park to see Hello Dolly. It was much enjoyed by all.

I would like to say thank you to Manitoba W.I. for planning a wonderful time for us and only wish that you could all attend one of these meetings. The next one will be in Banff in 1973. Wouldn't it be nice to say, "I was there!" I will leave the report of the open convention to our other delegates, of which we were 10. I know they will want to tell you how much they enjoyed being at the Fifth National Convention.

Hazel Beattie,
Provincial President.

Publicity Convener's Outline 1970-71

"Q.W.I. members are good watches — being open face, pure gold, quietly busy, and full of good works." These words are taken from my Publicity Report given at the Provincial Convention at Macdonald College in June, 1970. My task is to see that all your "good works" are reported in the Macdonald Journal. Remember that the Macdonald Journal enters the homes of many families other than those of Q.W.I. members. Therefore, we should endeavour to have our pages filled with helpful ideas for anyone who reads the Journal.

We live in changing times so here is an outline we might attempt to follow during the coming year. Send in your reports under the following headings:

News, i.e., life memberships awarded, etc.; Projects, let us hear all about a particular project; Demonstrations, have someone write an acount of the demonstration. Share your ideas; Donations, this area has been well reported — continue as in other years; Guest Speakers, list name and brief outline of topic. Report only those roll calls and mottos that you feel are unusual or different from the usual. Pictures are always welcome and help to brighten up our pages. One word of caution — do not write on the back of pictures — this spoils them for reproducing for the Journal. Send a separate item telling about your picture. Poems are also very welcome.

The Q.W.I. is allotted four pages in the Journal. Why not have a page for items sent to Provincial Conveners? In this way we would be able to read every month what members are doing under agriculture, citizenship, education, home economics and welfare and health.

If you feel this would be an improvement, forward your items to your County Convener who in turn will send them to your Provincial Convener and then on to be printed. When we meet again in June, 1971, may we be able to say "This has been an excellent and gratifying year for the Q.W.I."

Hilda M. Graham,
Provincial Convener of Publicity.

To even the most country-conscious city person, farming and agriculture still conjures up the image of a simple man with a weather-beaten face working long hours in the fields with his sons to earn a modest living from his small plot of land.

From October 31st to November 8th at Place Bonaventure, that image will become a myth! Today's farmer is a man of thought, a man of action — a man whose operation can only be described as "big business". And a man whose interests include the processing, packaging and marketing of the food he grows. That farmer is what the International Salon of Food and Agriculture is all about!

The Show is as new and different as the men it seeks to portray. It is being held for the first time in the colossal Exhibition Hall of ultra-modern Place Bonaventure. It is being held for the first time under its new and properly descriptive name — The International Salon of Food and Agriculture.

The "New Look" Country Comes to Town

At the Show, Ontario sponsors an imaginative display on tomato growing and processing featuring a robot-instructor. Quebec takes a long and interesting look into the dairy industry in this province. Canada concentrates on foods Canadians grow best and the exotic meals that can be prepared with them. A unique feature of the giant Canadian Government exhibit is the introduction of fish fondue. And just across the way, the National Meat Institute offers a much sought-after counsel — the art of choosing and preparing different cuts of beef.

Foreign countries will also have their say. Italy, France, Switzerland and Germany, all world renown for their fine food, present mouth-watering displays of cheese, chocolate, wines, beers and much, much more. Straw-weaving, diet dessert ideas, knitting and sewing tips and other live demonstrations of special interest to women highlight the show.

But the crowning touch to the entire exhibition is the Animal Exposition which spills over onto the loading dock of Place Bonaventure's huge Hall. Youngsters and adults alike will relive the fascination of the farm as they visit the pigs, goats, sheep, horses, and cows. Special riding and jumping demonstrations will feature some of Canada's best jumping horses. Daily at 4:30, the "Milk Parlour" comes alive to the sounds of milking time — the mechanical way. Sixteen cows representing four different dairy breeds will be mechanically milked.

Winemaking, the cooking of rabbit meat, rural painting, dog shows, apples from Quebec, potatoes from New Brunswick, the program of fascinating features goes on and on. There's something that'll tickle the fancy of every age and every interest. But above all, the International Salon of Food and Agriculture will do one thing — it will create a dialogue of understanding between city and country. And in this day and age, that in itself is "worth the price of admission."

The Last Word

In Appraisal of the Small Family Farm

Man is constantly striving to improve himself and the world in which he is living. But sometimes in doing so he becomes so engrossed in his aim that he loses his sense of values and the order of their importance. Wanting what is best going to benefit himself and his family, he becomes confused and before long begins to base their lives on the social aspects of status and wealth.

To experience any degree of personal satisfaction, however, one must have a keen interest in what one is doing and in the future of this project.

As Frank Tannenbaum states in "A Philosophy of Labour", "What gnaws at the psychological and moral roots of the contemporary world is that the urban people, workers and owners have nothing better than their own impersonal pecuniary interests."

Hence, it is not the class or prestige of the employment that should be considered, but the quality of the job performed and its value to our civilization as well as to the individual.

"Happy the man whose wish and care
A few paternal acres bound,
Content to breathe his native air
In his own ground.
"Whose herds with milk, whose fields with bread,
Whose flocks supply him with attire;
Whose trees in summer yield him shade,
In winter fire."

(Pope)

One of the happiest and most satisfied groups of people existing in society today is the small-scale farmer and his family. This man is truly dedicated to his profession; in fact it is a large part of his very being. He puts his whole life into the progressive success of his occupation in spite of the many hazards that are constantly confronting him whether in the form of climate, finances, or disease. His main goal in life is to keep his family comfortable, healthy, and free — free to be themselves and to enjoy nature the way in which he has been able.

Farm children, too, are greatly influenced by this way of life. They are closer to their parents when it is most important — when they are making a base for their futures. Hence, they are more familiar with their parents' work and the value of a dollar than most children. The farm child has the opportunity to be free — free to be alone when he wishes and to experience life from a more natural point of view. At a young age he is often able to see his questions answered before his own eyes rather than having incomprehensible explanations presented to him. Thus the child develops a deep bond with nature and in a sense with God. He learns to communicate with nature, to trust and understand it, but to retain a form of reverence for it. In spite of the various other factors that can influence a child in one of many directions, the farm child does have a better opportunity to experience, reflect and deduce right from wrong for himself.

Unfortunately, the small-scale farmer of today has more than his usual share of problems. No matter how much of an individual he is, he can not cut himself off from society. Many authorities have become so enamoured with the sweet taste of financial success and consequent feelings of superiority that they are subsequently unhappy with the future of the small farms in Canada. Because everything is being up-scaled and orders of human values neglected, the small farm family must now become infected with large-scale production or opt out.

Government bills and acts concern mainly large-scale production now and the small farms have been left to fend for themselves unless they can afford to expand. Our order of values have been thrown to the wind. Efficiency and mechanization are now the keys to progress. The person, which was the main product of the farm because he meant the farming of the future, is no longer important. He is now a number capable of producing "x" amount of "such and such" per acre.

If it becomes a choice between efficiency and the quality of person produced in our society, then we cannot afford to put efficiency first. The trouble is that we are letting efficiency run us. We are letting our tools to success and progress become our rocks to throw at our windows of the future.

"Before I built a wall, I'd ask to know
What I was walling in or walling out,
And to whom I was like to give offense.
Something there is that doesn't love a wall."

(Frost)

How can the country expect to get the best results when it develops advisors, desk jobs, and scientists for agriculture but neglects the people who make these jobs possible?

Few people can afford huge farming operations which are limited anyway to economic conditions and the vargaries of market places, etc. Where then is the first-hand knowledge to come from unless small farms and rural youth are continued?

A humane program for agriculture should keep in mind questions dealing with persons and values, not dollars and bushels! Unless we keep this in mind and regain our humane order of values we will over produce and out-do our purpose in life. We are very vulnerable to over doing a good thing to a point where we use it to cut our own throats. We must constantly remain aware and in control of the infinite abilities that lie within us. If we live by these values to the best of our abilities, we might set up a successful philosophy of agriculture or any other field because it is in order of its natural perspective.

Winny Tibbets,
Research Assistant,
Woodlot Management.

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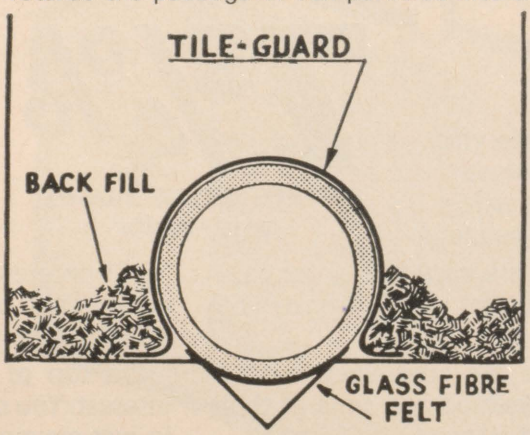

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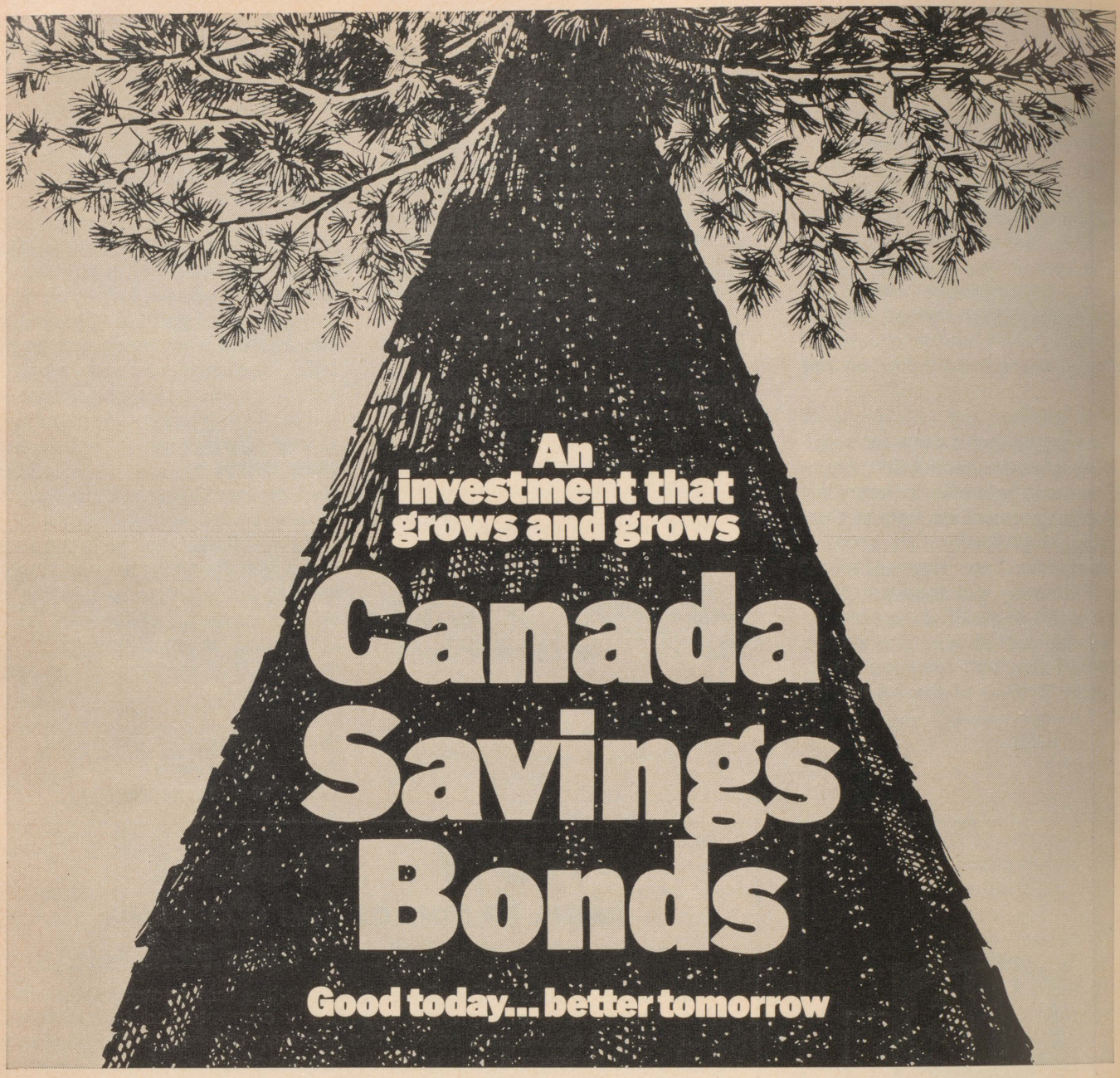

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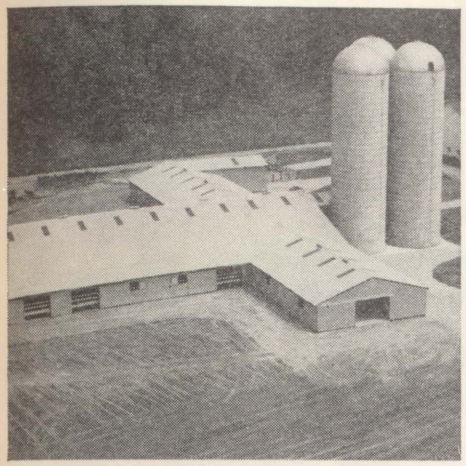
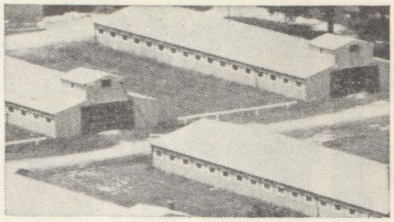
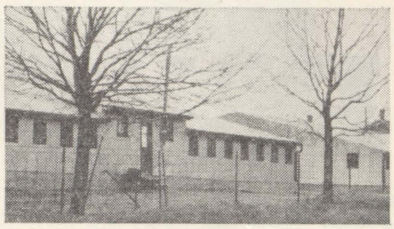
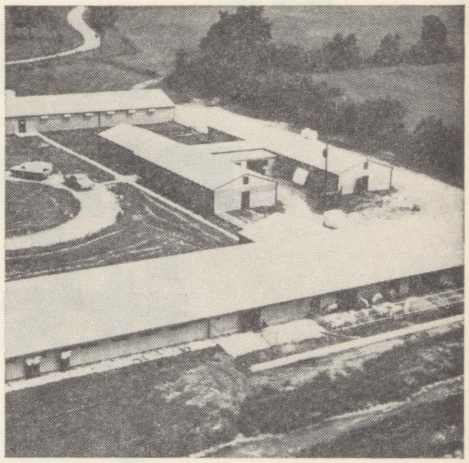
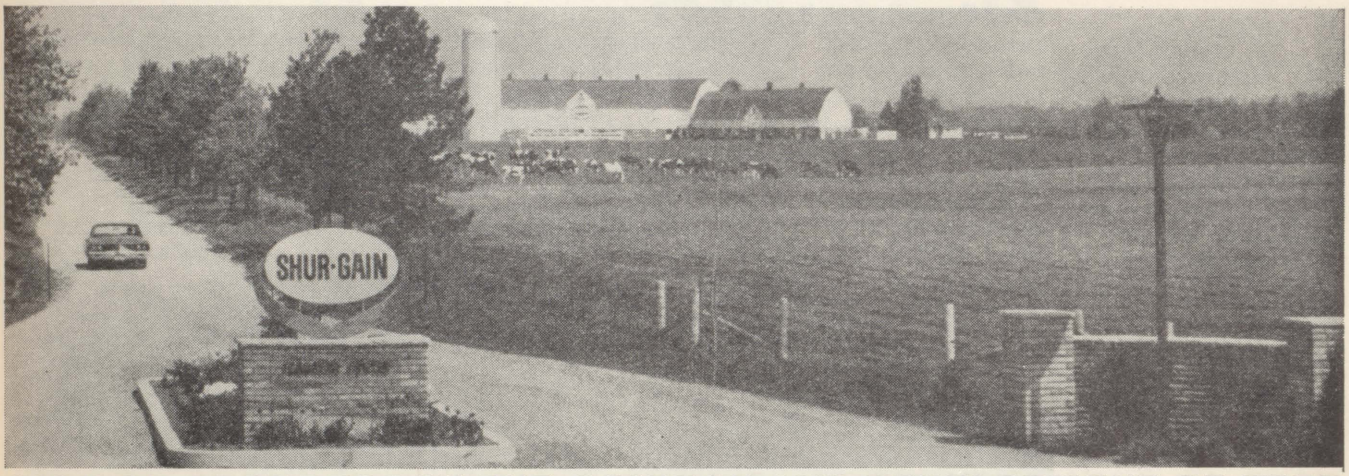

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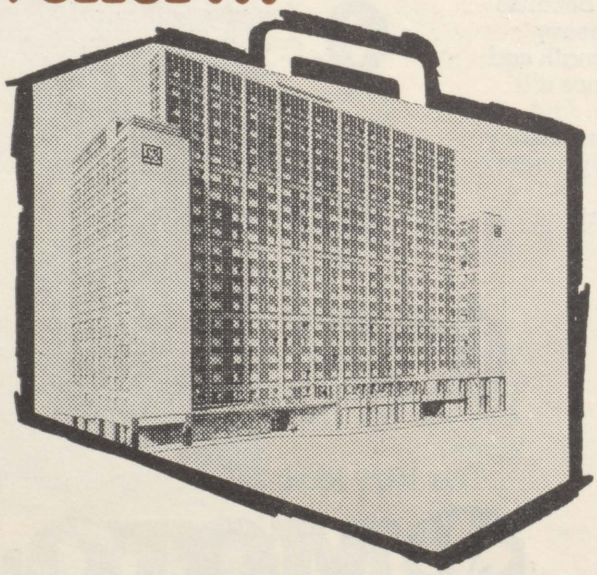

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